

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

REMARKS

I. Formal Matters.

Claims 3-5, 9-11 and 15-17 are currently pending in this application.

As an initial matter, Applicant thanks the Examiner for acknowledging Applicant's claim to priority under 35 U.S.C. §119 and for confirming receipt of a certified copy of Applicant's foreign priority document.

II. Specification.

The Examiner objects to the Amendment filed on December 7, 2004 under 35 U.S.C. §132(a) because it allegedly introduces new matter into the disclosure. Specifically, the Examiner objects to changing "eight to fifteen" to "eight to fourteen". In turn, the Examiner requires cancellation of the alleged new matter and asserts the corresponding rejection of claims 3-5, 9-11 and 15-17 under 35 U.S.C. §112, 1st paragraph (MPEP §608.04). Because the amended subject matter at issue is included in the claims, this objection can be appealed (MPEP §608.04(c); 37 C.F.R. §1.181; 37 C.F.R. §1.191). At this time, we respectfully request that the Examiner reconsider and withdraw his objection to the specification as containing new matter and the corresponding rejection of claims (under 35 U.S.C. §112, 1st paragraph) in accordance with the following traversal remarks.

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

The Examiner alleges that “eight to fifteen” is a valid industry standard; as such, Applicant’s previous assertion that one ordinarily skilled in the art would readily recognize the mistake of “eight to fifteen” as actually being the industry standard of “eight to fourteen” fails. We disagree and provide the following examples of 8 to 14, 8 to 15 and 8 to 16 modulation. *Hogan* (U.S. Published Patent Application No. 2005/0060620 (Sept. 2004)) teaches that modulation codes require more bits to represent the modulated data than the non-modulated data. For example, the modulation code employed in the CD format transforms eight bit data bytes to 14 bit modulation sequences and adds 3 merge bits for a total of 17 bits per 8 bit bytes and is referred to as the EFM modulation code. The DVD format employs an 8 to 16 modulation code, which is referred to as EFMplus. This is a more complex encoding process; however, by requiring only 16 rather than 17 bits to represent an 8 bit byte, the storage capacity of the disc is increased by a factor of {fraction (1/17)}, or approximately 6%.¹

Hogan ‘620 goes on to suggest that, “[a] more efficient 8 to 15 modulation code has been proposed and is described in [*Roth*] U.S. patent application No. 6,002,718.” This modulation code would provide an additional storage capacity increase of approximately 6% and is similar in performance to EFMplus.² *Roth* ‘718 teaches an 8 to 15 and 8 to 16 encoder.³ *Hogan* ‘620

¹ *Hogan* (U.S. Published Patent Application No. 2005/0060620 at paragraph [0008])

² *Hogan* (U.S. Published Patent Application No. 2005/0060620 at paragraph-[0009])

³ *Roth* (U.S. Patent No. 6,002,718 at col. 3, lines 25-35)

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

discloses that 8 to 15 has been proposed and described; however, it has not been adopted as an industry standard. Further, *Hogan* '620 teaches, "the reduced capability of the 8 to 15 code to control the low frequency [DC] content makes it unsuitable for a practical system, despite its enabling increased storage capacity."⁴

Applicant incorporates Korean Patent Application No. 2001-41557, filed July 11, 2001, by reference and claims priority from the same. We reviewed this Korean language document and failed to find EFM defined as "eight to fourteen" or as "eight to fifteen". The Korean language application specifically recites "eight to fifteen" modulation (*KPA* '41577). Therefore, "eight to fifteen", as originally filed, represents an error in language translation, submitted in oversight. Accordingly, Applicant submits that correction in the subject application of "eight to fourteen" does not constitute new matter. One of ordinary skill in the art would readily recognize the original disclosure of "eight to fifteen" as "eight to fourteen" especially in the context of reading binary data from a CD.⁵ ⁶ Accordingly, withdrawal of the objection to the specification as containing new matter is asserted as being proper and respectfully requested. In turn, the asserted requirement to cancel the "new matter" should be withdrawn.

⁴ *Hogan* (U.S. Published Patent Application No. 2005/0060620 at paragraph-[0010])

⁵ <http://www.cdrfaq.org/faq02.html>

⁶ <http://www.gi.alaska.edu/crc/cdrom/cdrom.html>

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

III. Claims.

The Examiner rejects claims 3-5, 9-11 and 15-17 under 35 U.S.C. §112, 1st paragraph, as failing to comply with the written description requirement. Compliance with the written description requirement (35 U.S.C. §112, 1st paragraph) is determined on a case-by-case basis and is a question of fact (*In re Wertheim*, 541 F.2d 257, 262, (CCPA 1976)). A description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the Examiner to rebut the presumption (*In re Marzocchi*, 439 F.2d 220, 224, (CCPA 1971)). The Examiner must have a reasonable basis to challenge the adequacy of the written description (*Wertheim* at 263).

The Examiner must set forth express findings of fact, establishing a *prima facie* case as to why one of ordinary skill in the art would not have recognized that Applicant was in possession of the invention as claimed in view of the original disclosure.(MPEP §2163.04(I)). To this end, the Examiner asserts that “eight to fifteen” is *also* an industry standard (FOA page 2) and, therefore, Applicant’s correction of “eight to fifteen” to the industry standard of “eight to fourteen” raises doubt as to whether the Applicant was in possession of the claimed invention at the time of filing. We disagree and first refer the Examiner to the discussion above supporting 8 to 14 and not 8 to 15 as an industry standard, especially for CD art.

Second, Applicant’s original specification supports 8 to 14 modulation. Specifically, “[a]n exemplary embodiment of the present invention...one frame is made up of 588 bits...”

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

(paragraph [0039]). One of ordinary skill in the art would recognize that 588 bits per frame corresponds to 8 to 14 modulated data with 3 bits separating each data symbol.⁷

Third, a plentitude of sources, in addition to those above, support “eight to fourteen” as the industry standard.^{8, 9, 10}

Fourth, the secondary reference applied by the Examiner, *Koudo*, recites “eight to fourteen” as a prior art example (*Koudo* col. 2, lines 11-14). In fact, *Koudo* only references EFM as 8 to 14, analogous to *Hogan*, wherein 8 to 16 is referred to as EFMplus. The Examiner rejects Applicant’s claims as being unpatentable over *Koudo*, which teaches EFM as 8 to 14.

In summary, “eight to fifteen” in Applicant’s original disclosure is clearly a language-translation error, submitted in oversight, where “eight to fourteen” is readily recognized by one of ordinary skill in the art. The specification supports an 8 to 14 modulation at least by teaching an exemplary embodiment of the present invention wherein one frame is made up of 588 bits.

⁷ “The first thing to remember is that the data on the CD is stored as 14 bits/symbol rather than just 8... Each 14-bit symbol is separated from its neighbor by 3 bits, called merging bits, coupling bits, connecting bits or packing bits... Now, we look at how data is actually stored on the CD. *Everything depends upon a 588-bit frame*. The 588 bits are organized as follows...” <http://www.mrichter.com/cdr/primer/bits.htm>; <http://www.cio.com/repairfaq/sam/cdfaq.htm> showing the relationship between 588 bits/frame and 8 to 14 modulated data.

⁸ <http://www.answers.com/topic/eight-to-fourteen-modulation>

⁹ http://www.pcwcbopaedia.com/TERM/E/Eight_to_Fourteen_Modulation.html

¹⁰ “The encoding of digital audio on CD player is governed by IEC 908.” *at* <http://www.ee.washington.edu/conselec/CE/kuhn/cdmulti/95x7/iec908.htm>

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

We find that if "eight to fifteen" is a 'standard' of modulation, it is not an industry standard recognized by those ordinarily skilled in the art. Therefore, the Examiner is requested to reconsider the rejection of claims 3-5, 9-11 and 15-17 under 35 U.S.C. §112, 1st paragraph, and withdrawal of said rejection is deemed proper.

In light of the discussion above, Applicant asserts that the Examiner should provide references reciting "eight to fifteen" as an industry standard to establish his *prima facie* case of lack of written description requirement (MPEP §2163.04(I)), if the Examiner does not withdraw the rejection of claims 3-5, 9-11 and 15-17 under 35 U.S.C. §112, 1st paragraph.

Claims 5, 11 and 17 are rejected under 35 U.S.C. §112, 1st paragraph, as failing to comply with the enablement requirement. The Examiner asserts that the disclosure does not adequately identify how the α value is being added or what the α value is (FOA page 3). The Examiner asserts that the disclosure does not enable one of ordinary skill in the art to make or use the invention. Finally, the Examiner seeks an explanation as to how the disclosure explains correlation between an α value and the error value (FOA pages 3-4).

First, the Examiner assert that the written description does not adequately identify what the " α value" is (FOA page 3). Applicant argues that α is adequately described as the difference between the transfer pointer and the EFM pointer, Tp-Ep (page 10, line 14- page 11 line 2; Figs 3 and 6; page 11, lines 12-18; page 12, lines 6-10). Furthermore, this difference is shown in the fifth diagram of Fig. 5 (page 11, lines 12-18). Waveform diagram (Fig. 6) further illustrates to

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

one of ordinary skill in the art how the α value is used to obtain a new error value, and further how the error value is utilized in a spindle motor speed control signal, SMO (page 12, lines 11-17). One ordinarily skilled in the art would readily recognize that $+\alpha$ corresponds to a transfer pointer leading the EFM point and $-\alpha$ corresponds to the transfer pointer lagging the EFM pointer (page 11, line 19- page 12, line 5; Fig. 6).

A specification disclosure that contains a teaching of the manner and process of making and using an invention in terms that correspond in scope to those used in describing and defining the subject matter sought to be patented must be taken as being in compliance with the enablement requirement of 35 U.S.C. §112, 1st paragraph, unless there is a reason to doubt the objective truth of the statements contained therein, which must be relied on for enabling support (*In re Marzocchi*, 439 F.2d 220, 224, 169). It is incumbent upon the Patent Office, whenever a rejection on this basis is made, to explain why it doubts the truth or accuracy of any statement in a supporting disclosure and to back up assertions of its own with acceptable evidence or reasoning that is inconsistent with the contested statement (*In re Marzocchi*, 439 F.2d at 224).

Applicant asserts that while spindle motor control is a technological challenge, the specification adequately describes the invention so that one of ordinary skill in the art could make and use the invention as claimed. The α value is adequately described in the specification and illustrated in Figs. 5 and 6. The application of the α value to obtain a new error value is clearly described and illustrated in Fig. 6. Finally, the implementation of the error value with respect to spindle motor control is also adequately described for one of ordinary skill in the art. Therefore,

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

one skilled in the art would be able to make and use the claimed invention using the application as a guide (*In re Brandstadter*, 484 F.2d 1395, 1406-07). Therefore, the failure to enable rejection under 35 U.S.C. §112, 1st paragraph, should be withdrawn.

The Examiner continues to reject all pending claims 3-5, 9-11 and 15-17 as allegedly being unpatentable over “the admitted prior art” in view of *Kouido*, et al., (U.S. Patent No. 5,956,307) under 35 U.S.C. §103(a).

Claims 3, 9 and 15. Previously, the Examiner relied on *Kouido* at col. 22, line 44 to col. 23, line 10, to disclose the claim element of “...wherein the lead/lag detection means generates the lead signal and the lag signal only when a gap between the transfer pointer and the EFM pointer exceeds a prescribed range; and a motor control generating means for controlling the rotation of the spindle motor based on the first error value...and the lead or lag signal...” (OA page 5, Sept. 8, 2004). We specifically directed the Examiner’s attention to *Kouido* at col. 22, lines 65-67, and Fig. 4 (Amendment file Dec 7, 2005, pages 13-14). Therein, *Kouido* discloses a “fixed comparison reference value”, wherein the reference value is an additional input to *Kouido*’s hold signal generating circuit 42, as opposed to an input into *Kouido*’s spindle motor control circuitry 3, or *Kouido*’s phase comparison circuitry 39. Clearly, the disclosure applied by the Examiner does not teach the claim element above. In his response to these arguments, the Examiner turns now to the detected “phase difference” taught in *Kouido*, wherein a phase error is fed into the spindle motor (FOA page 10). Further, the Examiner now relies on “a phase difference result” as teaching a gap between the EFM and transfer pointers exceeding a

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

prescribed range (FOA page 10; FOA page 8; *Kouido*: Fig. 3, ref. nos. 34, 35 and 39; col. 22, lines 11-31).

Turning to *Kouido* at newly applied col. 22, lines 11-31, and Fig. 3 (34, 35 and 39), Applicant asserts that *Kouido* teaches *the difference* between the RAM write address and the RAM read address (*Kouido* col. 22, lines 24-28). However, “a difference” does not form a *prima facie* case of obviousness with respect to a gap “exceeding a prescribed range.” Applicant’s claim element results in an adjustment of spindle motor speed in response to a pointer gap, only when the gap *exceeds* a specified range. In turn, constant spindle motor adjustment due to small phase differences would be avoided. *Kouido* fails to teach or suggest any minimum phase difference before adjustment is made to the spindle motor control. In fact, *Kouido* specifically teaches a fixed comparison value *range* as an input into a hold signal generating circuit 42, which *does not* feed into the spindle control circuit 3 (*Kouido* col. 22, lines 44-47 and lines 65-67; Figs. 3 and 4). *Kouido* may suggest the need for considering a phase difference exceeding a minimum range; however, *Kouido* teaches away from adjusting the spindle motor control signal based on a phase difference exceeding a minimum range. *Kouido* teaches a phase difference exceeding a minimum range with respect to the hold signal generating circuit 42. Applicant neither claims nor discloses a hold signal generating circuit.

Kouido neither teaches nor suggests a limited range or “fixed comparison reference value” for the output from his phase comparison circuitry 39 and input into his spindle motor control circuitry 3. Rather, *Kouido* discloses a reference value for input into his holding circuit 42 that

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

feeds into his signal processing clock signal generating circuit 40 (Fig. 3). A proper 35 U.S.C. §103(a) obviousness rejection teaches or suggests each and every element of the claim. The Examiner's applied references do not teach or suggest a motor control signal generation based on the "prescribed range" corresponding to the gap between the EFM and transfer pointer. Therefore, Applicant asserts that at least for failing to teach the element of motor control signal generation based on a gap between the EFM and transfer pointers exceeding a prescribed range, the 35 U.S.C. §103(a) rejection of claims 3, 9 and 15 over "the admitted prior art" in view of *Koudo* is improper and should be withdrawn.

Claims 4, 10 and 16. The Examiner asserts that Applicant's dependent claims 4, 10 and 16 are obvious over the admitted prior art in view of *Koudo*, citing *Koudo* at col. 22, line 44 to col. 3, line 10. As in the text which the Examiner cited for rejection of claim(s) 3 (9 and 15), this text refers to a "range" for the "fixed comparison reference value" (col. 22, lines 65-67; Fig. 4), wherein the "reference value" is an additional input to *Koudo*'s hold signal generating circuit 42 (Figs. 3 and 4). *Koudo* is referring to the "fixed reference value" of his hold signal circuit 42 (Fig. 4; col. 22, lines 44, 45 and 65-67).

In contrast, Applicant claims a means to vary the "prescribed range" corresponding to the gap between the EFM and transfer pointers, wherein a lead/lag signal is generated only when the gap exceeds a specified range, and wherein the motor control signal generating means controls the spindle motor rotation based in part on said lead/lag signal. *Koudo*, at large or in the Examiner's cited text, neither teaches nor discloses the element of varying the "prescribed

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

range”, corresponding to the gap between the EFM and transfer pointers, used to influence motor control signal generation. Therefore, at least for failing to teach or disclose this element of claims 4, 10 and 16, Applicant asserts that the 35 U.S.C. §103(a) rejection of claims 4, 10 and 16 over “the admitted prior art” in view of *Kouido* is improper and should be withdrawn.

Claims 5, 11 and 17. The Examiner continues to assert that “the combination of prior art and *Kouido* shows wherein the motor control signal generation means adds $-\alpha$ or $+\alpha$ to a first error value...” (OA page 9; the Examiner *quoting* Applicant’s claim 5, and *citing* *Kouido*, Fig. 3; col. 22, lines 55-56). However, the Examiner also asserts that this claim subject matter is not enabled.

While *Kouido*’s Fig. 3 shows a spindle control circuit 3, Fig. 3 does not disclose, nor does the text in col. 22, lines 55 and 56 recite, adding $-\alpha$ or $+\alpha$ to a frequency error value by a motor control signal generating circuit, or by any circuit. *Even if* *Kouido*’s spindle control circuit 3 and phase comparison circuit 39 (Fig. 3) are analogous to Applicant’s motor control signal generating circuit 212 and lead/lag detector 210, respectively, *Kouido* fails to teach or suggest adding or subtracting a ‘phase comparison’ constant to the error value of the frequency comparison. At least for failing to teach or suggest adding or subtracting a constant to the error value of the frequency comparison, the rejection of claims 5, 11 and 17 over the “admitted prior art” in view of *Kouido* under 35 U.S.C. §103(a) is improper and should be withdrawn.

REQUEST FOR RECONSIDERATION
U.S. SERIAL NO. 10/042,134

ART UNIT 2655
Q67500

In view of the foregoing amendments and remarks, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephonic interview, he is kindly requested to contact the undersigned at the local telephone number listed below.

The USPTO is directed and authorized to charge all required fees (except the Issue/Publication Fees) to our Deposit Account No. 19-4880. Please also credit any over-payments to said Deposit Account.


Respectfully submitted,

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